

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							June 2001			
BUDGET ACTIVITY 5 - ENG MANUFACTURING DEV				PE NUMBER AND TITLE 0604770A - Joint Surveillance and Target Attack Radar Sys				PROJECT 202		
COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
202 ARMY COMMON GROUND STATION (CGS) (TIARA)	25676	28632	8093	0	0	0	0	0	0	0
<p>A. Mission Description and Budget Item Justification: PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.</p> <p>The Common Ground Station (CGS) is a rapidly deployable and mobile tactical sensor data processing and dissemination center mounted on 2 High Mobility Multi-Wheeled Vehicles (HMMWVs). CGS integrates imagery and signals Intelligence Surveillance and Reconnaissance (ISR) data products into a single visual presentation of the battlefield, providing commanders at EAC, Corps, Divisions and Brigades with Near Real Time (NRT) situational awareness, enhanced battle management and targeting capabilities. CGS initially served as the ground station for the Joint Surveillance Target Attack Radar System (Joint STARS), but has evolved into a multi-sensor ground station that receives, processes and displays sensor data from Predator, Tactical UAV (TUAV), Airborne Reconnaissance Low (ARL), U2, Guardrail/Common Sensor (GRCS) and Integrated Broadcast Service (IBS) while preserving a small tactical footprint. CGS is the Army's premier radar Moving Target Indicator (MTI) ground station, receiving MTI data from Joint STARS, ARL and U2 sensors. Additionally, CGS receives, processes and cross cues data to include SAR, EO/IR, video and Signals Intelligence (SIGINT). CGS disseminates timely targeting and battlefield surveillance data to Army Battle Command System (ABCS) nodes such as the All Source Analysis System (ASAS) and Army Field Artillery Tactical Data System (AFATDS). A robust, self-contained communications suite insures connectivity with both sensors and command and control nodes under a wide range of battlefield scenarios and conditions. As part of the Future Digitized Division (FDD), CGS provides a key interface between intelligence and command and control systems by concurrently providing timely intelligence data and receiving the Common Tactical Picture (CTP) via the Tactical Operations Center (TOC) LAN. CGS contains a robust modeling and simulation capability that supports linkage to sensor simulations, system-of-systems training and participation in a wide range of exercises on a worldwide basis. The Joint Services Workstation (JSWS) is a single operator, transportable, reduced footprint, dismounted workstation variant of the CGS. The JSWS uses the same hardware and software and provides the same functionality as the CGS. The CGS/JSWS with its Joint STARS and other sensor feeds, fulfills an urgent air-land battlefield requirement by providing an Army/Air Force sensor and attack control capability to locate, track, classify and assist in attacking moving and stationary targets beyond the Forward Line of Troops (FLOT). The CGS/JSWS has repeatedly provided high value targeting and intelligence data to Field Commanders during contingencies (e.g. Operation Joint Endeavor), as well as during standard mission operations of fielded units. The CGS acquisition approach is predicated on a Spiral Development that leverages commercial technological advances. New Capabilities initiated and/or implemented in FY03 and beyond include: architecture upgrades to facilitate dissemination of CGS products to command and control systems located across multiple echelons, and expansion of modeling and simulation capabilities to support in unit and staff training, operational testing of the CGS in a virtual battle space environment. Planned CGS enhancements also include the integration of high-speed data link connectivity with the Predator UAV and tactical UAV, resulting in a decreased overall TOC footprint IAW CSA Transformation Strategy Initiative. Migration of CGS capability into a DCGS-A network centric environment will begin with improving connectivity of CGS with the Tactical Exploitation System (TES) and Guardrail Information Node (GRIFN) legacy systems to increase data sharing at the product library/database level. The next step will develop an early objective capability based on legacy hardware that would improve</p>										

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information transfer and visualization/collaboration.

The long-term objective capability is a modular/scalable network centric design utilizing objective hardware that integrates signal, imagery, and other intelligence processing into a common ground station. Spiral development will address the upgrade of existing CGS data links, CGS software and ADP suite to receive and process the increased intelligence data generated by the JSTARS Radar Technology Improvement Program (RTIP), Aerial Common Sensor (ACS) and other sensors. The radar enhancements and associated modifications to the Joint STARS air platform are fully funded within the USAF RDT&E PE 060440F. The CGS/JSWS is an integral component to the Brigade Combat Teams. This system supports the legacy transition path of the Transformation Campaign Plan. (TCP)

FY 2000 Accomplishments

- 1788 Integration of the Tactical Control Data Link (TCDL) with Airborne Reconnaissance Low (ARL) System.
- 12001 Development of Joint Services Wide Band Data Link / Surveillance Control Data Link (SCDL) Improvement/Risk Reduction Effort as principal data link to the Air Force E8 Aircraft.
- 11887 Block 20 Pre-Planned Product Improvement (P3I) (System High Accreditation, Joint Common Database, MTI/Track Overlay, and Virtual STARS Capabilities).

Total 25676

FY 2001 Planned Program

- 3235 Develop the interfaces and software modifications that support Common Ground Station (CGS) Interoperability with Tactical Exploitation System (TES), Guardrail Information Node (GRIFIN) and participate in DCGS-A working Groups.
- 2936 Joint Service Work Station (JSWS) Battle Lab Hardware and Support.
- 905 Coalition Aerial Surveillance and Reconnaissance (CEASAR) Support.
- 3970 Limited User Test for Block 10 Pre-Planned Product Improvement to CGS V(2).
- 4702 Develop and Support Enhanced CGS Interoperability Capability for Division Capstone Exercise I and II.
- 7000 Commercial-Off-The-Shelf (COTS) Technology Insertion for the CGS technology relative to modeling & simulation, Open Wings/MTI, Digitization, Visualization and Collaborative Tools.
- 4000 Complete Phase 3 of the SCDL System Improvement Program (SIP 3) to include UAV connectivity.
- 1884 Integration of SATCOM higher data rate.

Total 28632

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FY 2002 Planned Program

- 2655 Conduct integration and enhance CGS Collaboration/Data sharing with other tactical processing nodes located on the digital TOC LAN and across Battlefield echelons
- 2272 Expand Modeling & Simulation capabilities to include staff operation and multiple system exploitation via network environment.
- 995 Coalition Aerial Surveillance and Reconnaissance (CEASAR) Support.
- 1671 Develop Sensor Exploitation, Operator, Visualization and Collaboration tools in coordination with TES, GRIFIN and the evolution of DCGS-A.
- 500 System High Certification and Accreditation of CGS P3I software

Total 8093

<u>B. Program Change Summary</u>	FY 2000	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2001 PB)	25676	17898	17713	0
Appropriated Value	26035	28898	0	0
Adjustments to Appropriated Value	0	0	0	0
a. Congressional General Reductions	0	0	0	0
b. SBIR / STTR	0	0	0	0
c. Omnibus or Other Above Threshold Reduction	0	0	0	0
d. Below Threshold Reprogramming	0	0	0	0
e. Rescissions	-359	-266	0	0
Adjustments to Budget Years Since FY2001 PB	0	0	-9620	0
Current Budget Submit (FY 2002/2003 PB)	25676	28632	8093	0

Change Summary Explanation:

FY2002 - Funds were realigned from this project to support other Army higher priority requirements.

FY2003 - Funds were realigned from this project to support other Army higher priority requirements.

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C. Other Program Funding Summary	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Compl	Total Cost
BA1080 Joint STARS (TIARA)	94840	65805	21304	0	0	0	0	0	0	0
BS9724 Joint STARS Spares	5434	6122	4361	0	0	0	0	0	0	0
1001018A NATO AGS C35	200	500	2109	0	0	0	0	0	0	0

C. Other Program Funding Summary: The Joint STARS Program is also related to Air Force PE 060477

D. Acquisition Strategy: The Milestone III approval for Common Ground Station (CGS) was granted by the Defense Acquisition Board in August 2000 and the remaining production quantity was procured in FY01. The baseline CGS is being fielded and is being enhanced via a spiral development approach which improves sensor interfaces, integration into Army Battle Command System (ABCS) networks, networked collaboration and exploitation tools. A block approach to migrate the CGS, Guard Rail Information Node (GRIFN), and Tactical Exploitation System (TES) capabilities into an objective Distributed Common Ground Station Army (DCGS A) is being coordinated with Project Manager Signal Warfare (PM SW) and Army Space Program Office (ASPO.)

E. Schedule Profile	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Conduct TCDL Integration Effort and Demonstration	2-4Q			0	0	0	0	0
SCDL Risk Reduction	1-4Q	1-3Q		0	0	0	0	0
Block 20 P3I Program	1-4Q	1-4Q		0	0	0	0	0
Modeling and Simulation	1-4Q	1-4Q		0	0	0	0	0
Block 10 P3I Reliability Growth Test	3Q			0	0	0	0	0
Milestone III	4Q			0	0	0	0	0
DCGS-A Spiral Development		2-4Q	1-4Q	0	0	0	0	0
Demonstrations at Division Capstone Exercises I and II		2-4Q	1Q	0	0	0	0	0
Block 10 Limited User Test (LUT)		3Q		0	0	0	0	0
Sensor Exploitation/Operator Tools Development			1-4Q	0	0	0	0	0
FOT&E for Block 20				0	0	0	0	0

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . TC DL	CPFF	Motorola, Scottsdale, AZ	1645	0		0		0	0	0	0	0
b . SCDL/JSWB Data Link Improvement	C/FP	Cubic Corp, San Diego, CA	11641	4500	3Q	0		0	0	0	0	0
c . Sensor Exploitation & Operator Tools/P3I Development	C/FP	Motorola, Scottsdale, AZ	10612	0		2706	1Q	0	0	0	0	Continue
d . Modeling & Simulation	C/FP	Motorola, Scottsdale, AZ	0	830	2Q	1494	1Q	0	0	0	0	Continue
e . JSWS Battle Lab Hardware Support	FFP	Motorola, Scottsdale, AZ	0	2388	1Q	0		0	0	0	0	0
f . Field Support	T&M	Motorola, Scottsdale, AZ	5764	1286	1Q	0		0	0	0	0	0
g . Technology Insertion	FFP	Motorola, Scottsdale, AZ	0	7000	1Q	0		0	0	0	0	0
h . SATCOM Interface	T&M	Motorola, Scottsdale, AZ	0	1487	3Q	1000	1Q	0	0	0	0	Continue
i . Next generation high speed datalink	CPFF	To Be Selected	0	0		0		0	0	0	0	Continue
Subtotal:			29662	17491		5200		0		0	0	Continue

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II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Matrix Support	MIPR	CECOM	1557	1149	1Q	1099	1Q	0	0	0	0	Continue
b . Joint Test Force Support	MIPR	Various	228	200	1Q	205	1Q	0	0	0	0	Continue
Subtotal:			1785	1349		1304		0		0	0	Continue
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Operational Reliability Demonstration Test (ORDT)	MIPR	TEXCOM/OEC	6770	0		0		0	0	0	0	0
b . ORDT	C/T&M	Motorola, Scottsdale, AZ	5387	0		0		0	0	0	0	0
c . Block 10 Limited User Test (LUT) and Preparation	T&M	Motorola, Scottsdale, AZ	0	3970	1-3Q	0		0	0	0	0	0
d . Division Capstone Exercise I & II	CPFF	Motorola, Scottsdale, AZ	0	4202	2-4Q	0		0	0	0	0	0
e . Spiral Developmental Test	T&M	Motorola, Scottsdale, AZ	0	842	1Q	898	1Q	0	0	0	0	Continue

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III. Test and Evaluation (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
			12157	9014		898		0		0	0	Continue
Subtotal:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Project Management		PM, Common Ground Station	2058	778	1Q	691	1Q	0	0	0	0	Continue
Subtotal:			2058	778		691		0		0	0	Continue
Project Total Cost:			45662	28632		8093		0		0	0	Continue